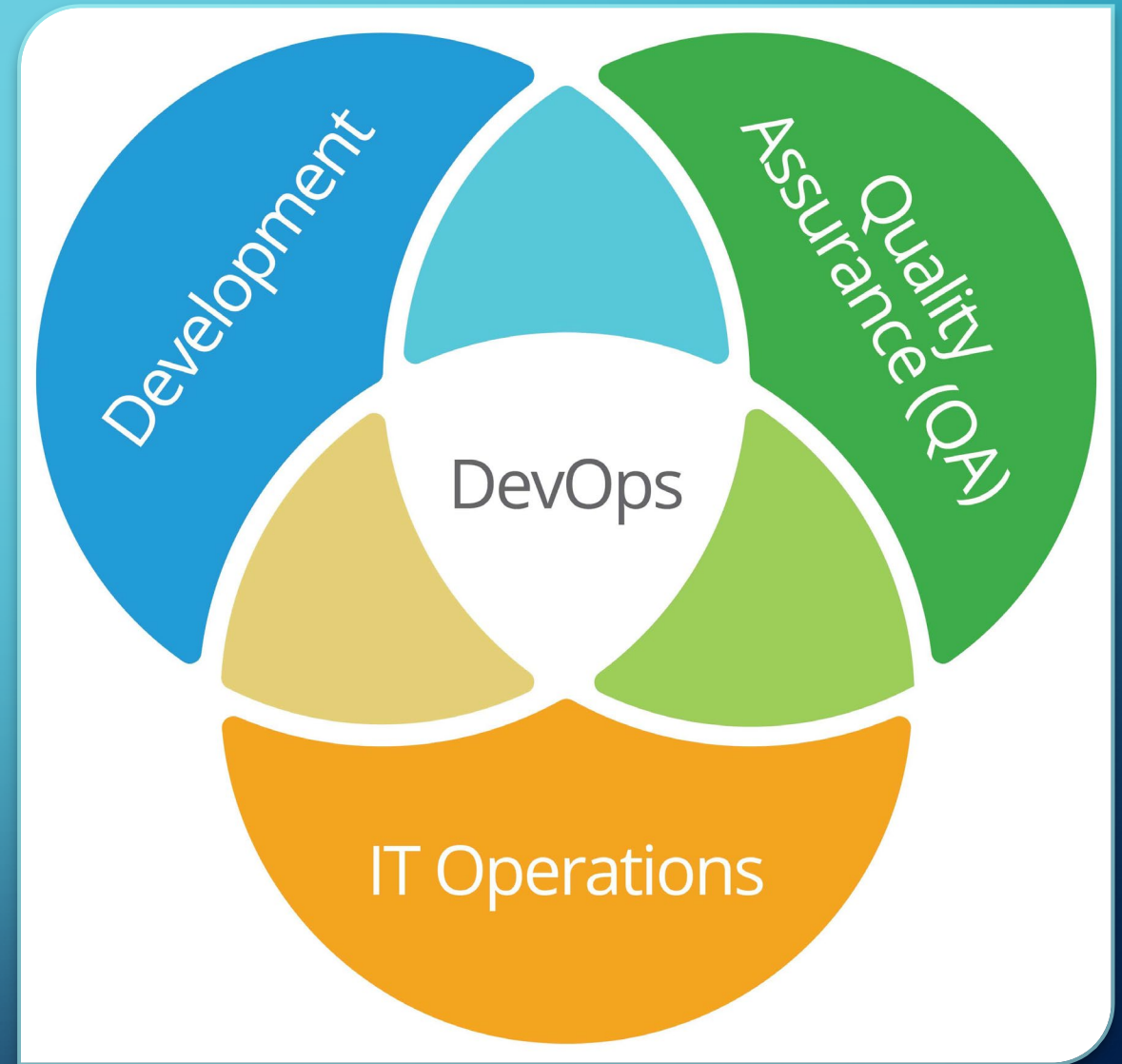


A decorative graphic on the left side of the slide, consisting of a network of light blue lines and small circles, resembling a circuit board or a neural network, set against a blue gradient background.

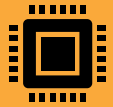
# GITHUB AND CI/CD

# WHAT AND WHY DEVOPS CI/CD

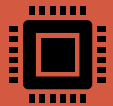
- CI/CD is part of DevOps
- Continuous Integration is performing build and test processes on code changes to keep integrity of code base.
- Continuous deployment is a deployment triggered by an event that launch's a deployment process that is automated and consistent.
- Advantages – Security, Consistency, Plugins, Auditing and Productivity.



# GIT AND GITHUB



Git is a version control system. Others include VSTC and SVN.



Github is a hosting platform for Git Repositories. Others include DevOps and BitBucket.

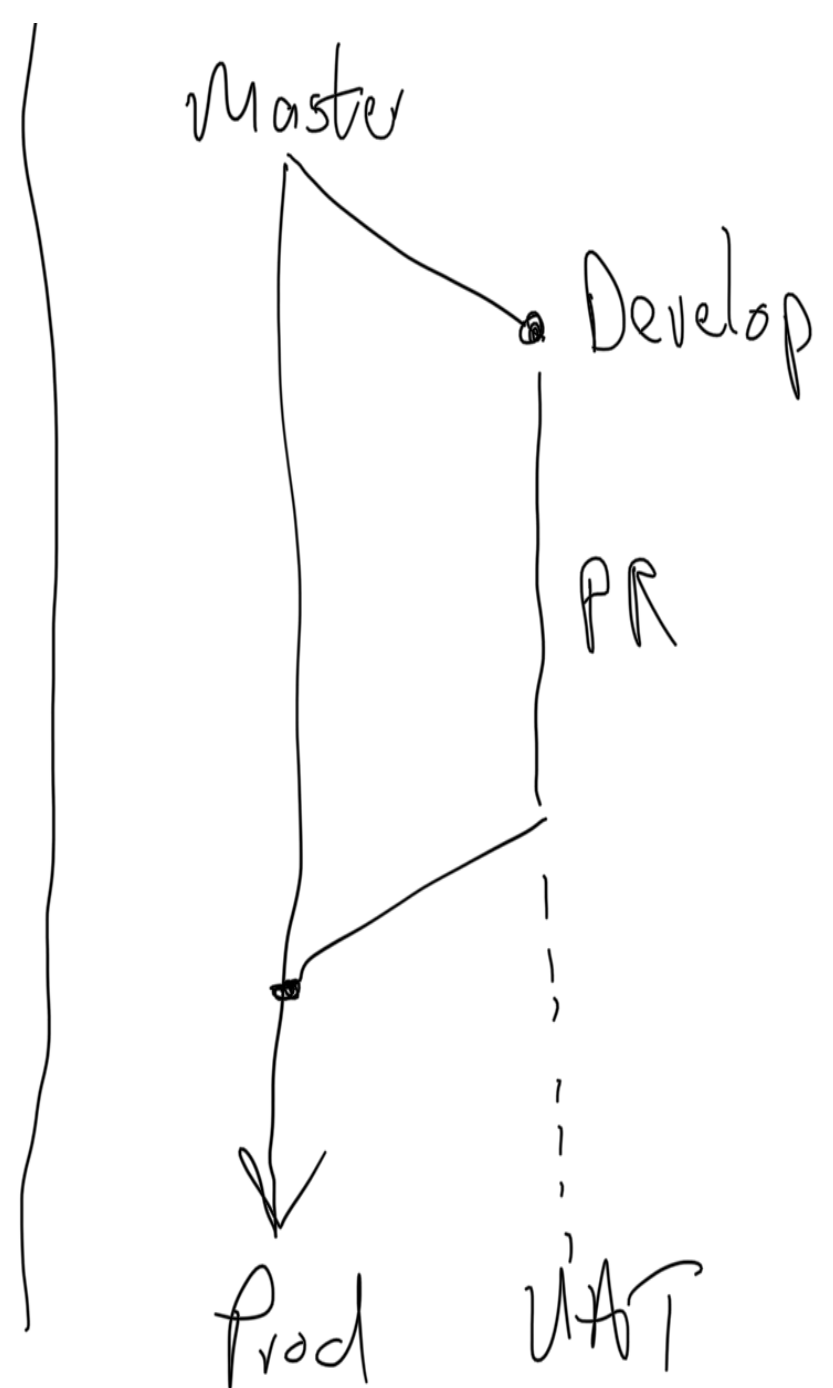
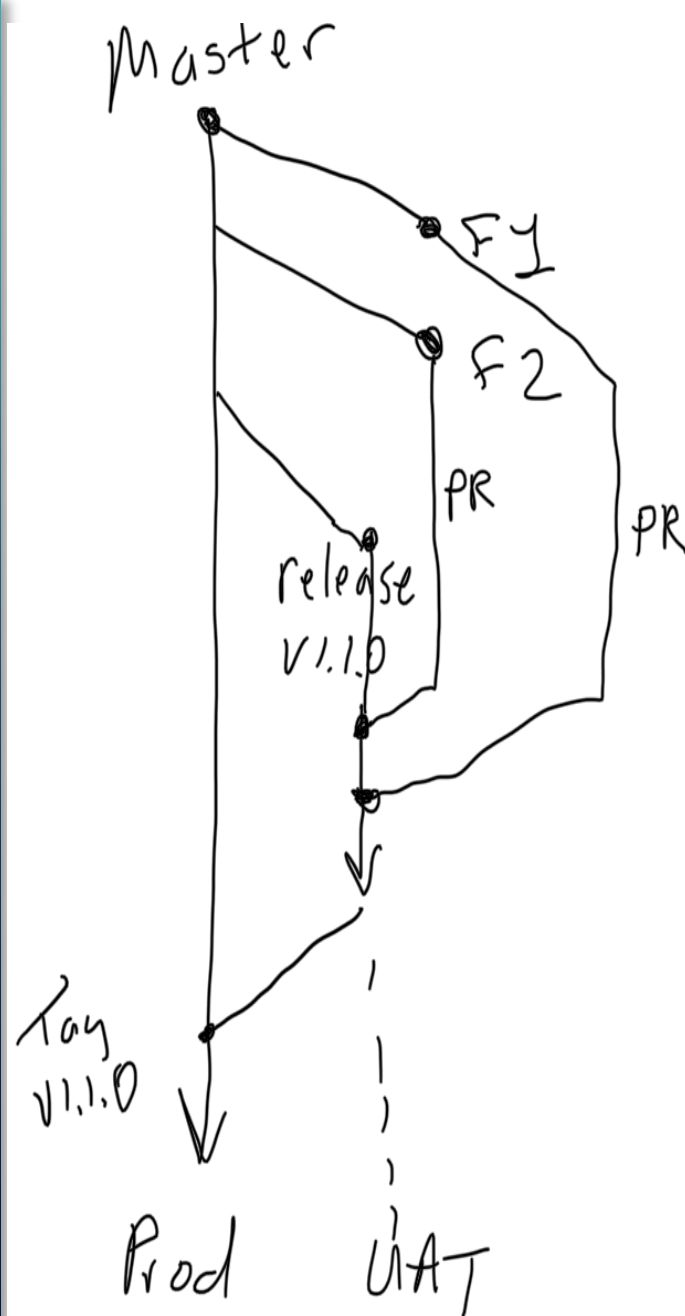
# GIT VS TFVC

- Decentralized vs Centralized
- Lightweight branches vs Full Copy branches
- Commits vs Changesets
- Pull vs Get Latest
- Push vs Checkin
- Pull Request(PR) vs Merge
- Ways to use Git: VS Integration, Command Line, Github Desktop and other tools.



# GIT BRANCHING

- Create branch from master to create feature – F1, F2.
- Create release branch from master – release/v1.1.0
- Create PR to merge F1 and F2 into Release branch. This triggers CI build and tests. If they fail PR can't complete. Otherwise merged into release branch.
- CI build runs for Release branch. CD deploys release branch code to test/UAT system.
- When testing complete, PR release branch into Master.
- HOTFIX.



# DEMO

- Create Test and Prod web apps in Azure PaaS.
- Build Sample app to work with in demo – Blazor.
- Show existing deployment process.
- Publish to Github.
- Github Overview: Tags, Star, Search, Issues, Projects, Branch Policies, Actions.
- Create branch and perform a change to demo PR process.
- Setup CI on Master and Release/\* branches.
- Setup CD to Test and Prod environments.

# DEMO CONT.

- Show CI/CD process.
- Show Broken Build.
- Show Failed Unit Tests.

# ADDITIONAL GOODIES

- Integration Teams, Github, etc.
- VS Code / Live Share / VS Online.
- Possible SQL Server license savings.
- Site Finishing: Custom DNS / SSL.